

WHAT IS CLAIMED IS:

1 A synchronous rectifier circuit, comprising:

a transformer that includes a primary winding, a secondary winding, and an auxiliary winding connected via one end the auxiliary winding to one end of the secondary winding, said transformer insulating a secondary winding side from a primary winding side;

a diode connected via an anode to another end of the auxiliary winding;

an auxiliary switch connected to said another end of the auxiliary winding via a resistor connected to a base, said auxiliary switch being connected to said one end of the secondary winding and to said one end of the auxiliary winding via a collector; and

a rectifier switch connected via a gate to a cathode of the diode and to an emitter of the auxiliary switch, and via a drain to another end of the secondary winding.

2 The synchronous rectifier circuit according to claim 1, wherein the auxiliary switch is formed by a PNP transistor or a P-channel MOSFET.